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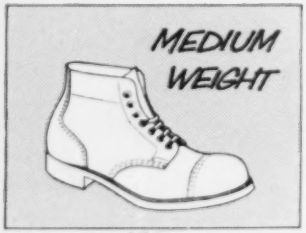

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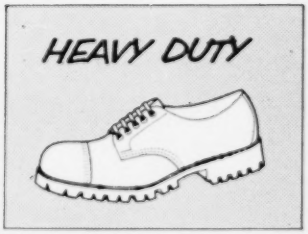

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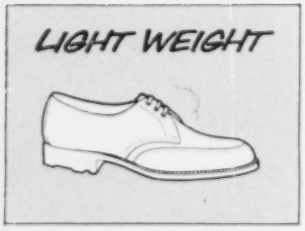

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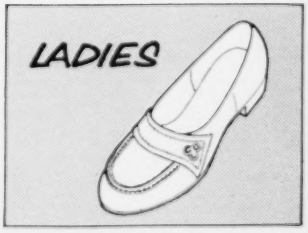

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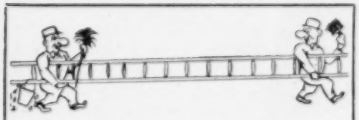

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Personnel Management and Methods

WELFARE · SAFETY · HEALTH · CATERING · EFFICIENCY

AUGUST, 1959

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NEWS NAMES NOTES

A NUMBER OF MEASURES designed to extend and improve vocational training facilities for young workers have been recommended by the Organisation for European Economic Co-operation. Proposals include the preparation and introduction of financial and other assistance for persons who have to undertake training away from their homes. Member governments are also recommended to increase the occupational mobility of young persons by revising instructional methods and contents of training courses so as to provide more broadly based training over a number of related occupations. They have been asked to report back by June 30, 1960, on the steps taken to implement these recommendations.

THE PRIMARY PURPOSE of a new African youth training school is to prepare the sons and wards of Mufulira African mine employees for employment at the mine and elsewhere. The curriculum is designed particularly to give the boys a sense of civic pride and responsibility, although lectures will also be given on different aspects of mining work, hygiene and handicrafts. To help pay for the course, students will produce vegetables, bananas and paw-paws in the garden, for sale at the European and African markets at Mufulira.

WORTH OVER FIVE HUNDRED POUNDS, a scholarship was recently awarded to Mr. G. Downie, executive officer, materials handling, Unilever Ltd., for his winning paper, "How Greater Use of Industrial Trucks Can Benefit the British Economy", submitted for the John Morris Memorial Award. The money will pay for his attendance at a course of intensive study at the 6th Annual Materials Handling Training session in New York.

A PLEA FOR SIMPLICITY in communication was made at a recent week-end course organised by the Portsmouth Productivity Committee. Mr. L. F. Chambers, managing director C.J.C. (Developments) Ltd., urged supervisors to avoid the use of complex words and phrases. He emphasised the danger of being misunderstood because of complicated instructions.

THE DAY CONTINUATION SCHOOL of Leyland Motors Ltd. has received a £1,200 grant from the Lancashire County Council to be spent on stocking its technical library. They already have 4,000 books and will add to them as further payments of £100 are made each year. The library is open every lunch hour and in the evenings from 5 to 6 p.m. During working hours, it is open for reference only.

SINCE 1948 more than 4,000 men and women have been trained in a variety of trades, ranging from retail bespoke-tailoring to aircraft detail fitting, at the Government Training Centre, Perivale, Middlesex. The Government scheme is concerned with assisting certain classes of people

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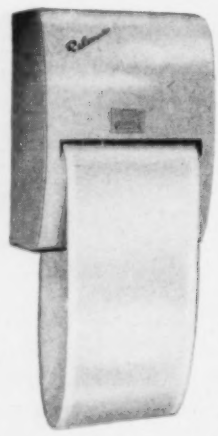

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NEWS
NAMES
NOTES

(particularly the disabled and ex-Regular Servicemen) who are in need of special help to fit themselves for suitable employment.

PRIDE IN WORKMANSHIP begins at home, maintains the management of Ratby Engineering Works, Leicester. Consequently, they invited workers' mothers, wives and girl friends to come and see how the men spend their working day.

BY EARLY AUTUMN a film strip that deals in an entertaining and unusual way with the subject of working clothes will be made available to personnel managers and welfare officers. The strip, with sound commentary, explains the operation of the Sketchley Overall Service.

AN INTER-CITY FEUD is to continue. During the closing week of the Edinburgh International Festival, Glasgow will welcome the Scottish Industries Exhibition, 1959. From September 3-19, visitors will view displays of all-Scottish products that range from moulded furniture to a new electrostatic generator which is both safe and simple. Programmes can be obtained from M. H. Donaldson, General Manager, SIE 1959, 3 Woodside Terrace, Glasgow, C.3.

HOT FOOD FROM A MACHINE was one attraction at the recent Safety and Factory Exhibition in Birmingham. A visiting personnel manager, Mr. A. W. Docker, of Thos. Haddon and Stokes Ltd., commented on one advantage of such machines: their ability to reduce the need for round-the-clock staffing in industrial premises.

Gathered into our picture of W. M. Still's "Tea Cub" on show at the exhibition are (*from left to right*): Mr. A. Leopard, catering manager of Guest, Keen and Nettlefolds

Ltd.; Mr. A. W. Docker; Mr. Hare, managing director of Midland Automatic Catering Ltd.; and Mr. G. J. Field, catering superintendent of the Midland Motor Omnibus Company.

Mr. John Ryan, CBE, MC, vice-chairman of the British Institute of Management, was one of the eight new Fellows elected to the International Academy of Management at a recent meeting of the executive committee of the International Committee for Scientific Management. The Academy's purpose is to stimulate and honour distinguished personalities for their contributions to the field of scientific management.

Mr. J. F. MacGillivray has been appointed chief staff officer with the Atomic Energy Authority, and will take up his post at Chapelcross, Dumfries, this month. Mr. MacGillivray has held a number of senior personnel appointments in Scotland and England, and for the past three years has been chief staff officer with the Scottish Division of the National Coal Board.

Mr. G. Ronald Pryor has been elected President of the Institution of Production Engineers. He has served on the Council since 1945, and was its chairman from 1954-56.

The M.B.E. has been awarded to **Mrs. Irene S. Ramsey,** secretary of the Industrial Co-Partnership Association since 1945. Mrs. Ramsey recently completed her 30th year as a member of the Association's staff.

Newly appointed safety officer for Godins "The Rollers of Steel Sections" Ltd., is **Mr. J. H. Tipper.** For the past 21 years he has been inspector of cranes for the British Engine Boiler and Electrical Insurance Company.

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MANAGEMENT DIARY FOR SEPTEMBER

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24-26 **Cranfield.** Annual Conference, "Education and Training for 1965"

COLLEGE OF PRODUCTION TECHNOLOGY
(Ashford, Kent)
Residential Courses

7-25 A three-week development course for middle executives
14-18 Five-day packaging course
21-25 Five-day course in human relations designed especially for training officers
28-Oct. 2 Five-day course on office organisation and methods
28-Oct 2 Five-day course on office machine skills development

External Courses

8-9 **Birmingham.** Two-day course in human relations
15-17 **London.** Three-day course in work study and human relations
22-24 **Glasgow.** Three-day materials handling course

INDUSTRIAL WELFARE SOCIETY
Non-residential courses and conferences at Robert Hyde House

14-18 Foremen
21-22 Newly appointed graduates
22-23 Visual Aids
23-24 A two-day course designed as a refresher for personal secretaries and for those about to be promoted to secretarial positions. Papers: effective speaking, clear thinking, effective means of dictation, reference books, dress and appearance, dealing with people and helping the executive.
30-Oct 2 Interviewing: a three-day course for managers and supervisors concerned with day-to-day interviewing rather than for personnel specialists. Practical sessions will supplement talks on principles, communications and preparation.

Meetings Outside London.

21 **Newcastle.** One-day course mainly for personnel managers, accountants and executives on the financial position of employees' food services and on trends in policy and management.
24 **Manchester.** Presentation of 10 new sound filmstrips to assist training officers. Topics covered: materials handling, packaging, counter sales, customer satisfaction, etc.

INSTITUTE OF INDUSTRIAL SUPERVISORS
Weekend Residential Courses

11-13 **Buxton.** Weighing up people and jobs. A recapitulation of the plan for assessing abilities followed by a number of practical exercises designed to help the supervisor to be more effective in matching people to their jobs.
18-20 **Droitwich.** The practice of supervisory management. An exchange of experience and ideas about the job of being responsible for the work of other people.
25-27 **Bournemouth.** Human relations. A course that gives special consideration of the problems in human relationships which every foreman must be able to solve.
25-27 **Bridge of Allan.** The practice of communication: a syndicate exercise to give supervisors the opportunity of thinking about the basic skills needed to get new ideas launched in a manufacturing company.

INSTITUTE OF PERSONNEL MANAGEMENT

21-25 Functions of a personnel department. A five-day course in London covering the main aspects of personnel administration and suitable for newly appointed personnel officers and assistants in large companies. Non-residential.

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7-11 Management communications
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10-11 } Successful speaking
17-18 }

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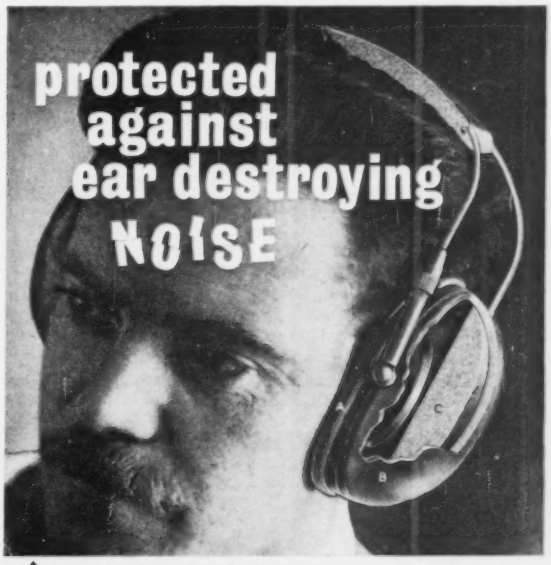
28-Oct 3 Thinking, speaking and writing. Designed for those who want to become more effective in making themselves understood, including report writing, committee work and letter writing.

OVERSEAS

5-10 **Aix-en-Provence, France.** Second International Conference on Operational Research
7-10 **Paris, France.** Sixth Annual International meeting of the Institute of Management Sciences. Topics include management education, human factor and behaviour sciences, management communications, computer systems and management games.



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ST ALBANS

POINT COUNTER POINT

Vote for Safety

AFTER Mr. J. C. Williams, a trade-union solicitor, had forcefully addressed the Brighton Trades Council on the subject of industrial accident prevention, it was agreed that a conference should be held this summer to debate "Safety in Employment". Union executives and representatives throughout Sussex are being invited to this full-scale gathering.

Mr. Williams told the Council that he thought workers were too complacent about the heavy toll of casualties among people carrying out their everyday duties. Every year, he remarked, some 800,000 people were killed or injured at work. "Where we have gone wrong is in our defensive attitude," he said. "We have not been thinking enough about how to prevent accidents, and thinking too much about how much we are going to get after an accident. I have seen too much of this bargaining in blood and bones. A man with a finger off, for example, asking 'How much is that worth'?"

What we need is an overall policy aimed at preventing accidents and workers should not be prepared to leave this to the employers' side because it was thought to be a technical subject to be left to experts. "With its wealth of experience", Mr. Williams suggested, "the trade-union movement is well equipped to formulate a policy for improved standards to present to the employers".

At a meeting of the Irish Congress of Trade Unions a few weeks ago, steps were taken to promote the formation of workers' safety committees in factories. Though there is legislation covering them, few such committees operate, but if *workers* set up such groups it is felt that they will be more easily accepted.

An Irish trade union spokesman's reaction was to admit that the chief reason why workers did not avail themselves of this safety-committee system was that they were unaware of the chances available to them. The unions feel that *more publicity* on the matter should come from the Republic's Department of Industry and Commerce—something more to the point than the long abstract of the Act which appears in workshops.

Interest Aroused

ENCOURAGING figures are quoted in the Ministry of Labour's annual report for 1958. In the Ministry's TWI scheme, the "Job Safety" programme, which was introduced during the latter part of 1957, was appreciated by increased numbers. During last year, the 339 representatives of firms who were trained as "TWI Trainers", were responsible for instructing more than 6,500 supervisors in job safety.

It is also laudable that more companies are consulting Ministry experts. Personnel Management Advisers visited

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Pfizer

Personnel Management Africa

The Pfizer International Organisation requires a Personnel Manager for a post of challenging responsibility in Africa.

Pfizer Companies in that continent are still in the early stages of their growth, and will be rapidly developed in the pharmaceutical, agricultural and veterinary fields during the next few years. Local nationals for the various countries will be employed on an increasing scale, and integrated personnel policies for people from Africa and this country will have to be established throughout the continent.

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2,020 firms (compared with 1,920 in 1957), to discuss developments in human relations or to assist in the solution of local problems.

Learners All

BANKERS in Scotland are going back to school, and enjoying it because of the Royal Bank of Scotland's conversion of a mansion house into a residential college. At West Coates in Edinburgh small classes of seniors, intermediates and juniors attend suitable refresher courses—seniors living at the College for two weeks and juniors for one week.

The new boys have a model bank where they can be given their first training in banking routines. Seniors have refresher courses on specific and general aspects of banking, with the emphasis on contemporary methods. Top management attends the courses for one night during each course, joining the trainees at dinner. The new College continues an earlier arrangement in this bank whereby staff men were gathered for periodic refresher courses in hotels and similar buildings.

Now the Bank has provided a completely personal unit devoted entirely to staff training, and has expressed satisfaction with the results achieved. Apart from touching on newer techniques and bringing staff up-to-date on methods and policies, the College is valuable in bringing together employees from widely scattered points of the country.

Flexible Training

COURSES for supervisory grades are not great in number so that it is certainly worth noticing successful developments in this field. In 1953 the National Association of Port Employers decided to arrange residential courses for supervisors in the docks industry. Lasting a fortnight, these sessions are planned to provide the student with a wider background to his job through contact with men from other ports and by including lectures of general interest in the syllabus.

They have found that the ideal number of students at each course is between 20 and 25—a larger number would handicap group discussion. During the past six years more than 500 students from ports throughout the United Kingdom have attended.

A most intelligent feature of this scheme is that a sub-committee of the Association meets annually to review the courses held during the year and to arrange the next series—often *incorporating improvements suggested by the students or by the resident college staff*. They have also discovered the benefits of taking students outside their own environment to help them to see things clearly and to see them whole.

This Month's Cover . . . .

A casual glance at our front cover picture would most probably cause less unease if the calm driver with the expressive back were turned, so that he could keep an eye on the descending load.

'Correct handling eases effort' is the theme of this year's National Industrial Safety Week (28 Sept.-3 Oct.), organised by RoSPA.

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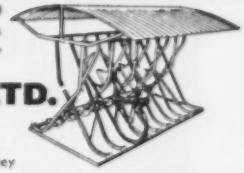

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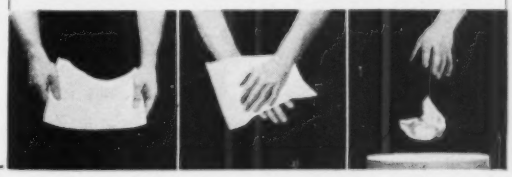

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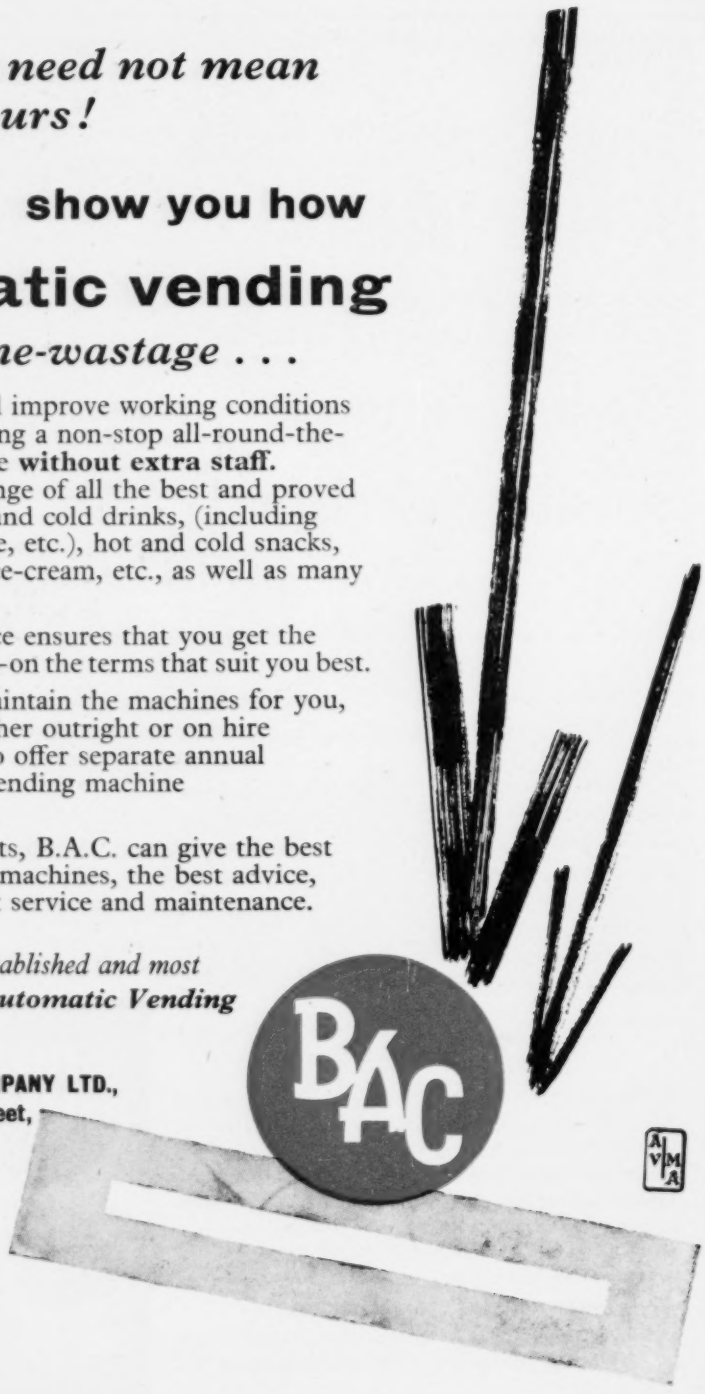


by W. L. Edwards

Rapid results from teamwork

In two years a safety committee halved the eye-injury rate in a Scottish glass factory

WE are accustomed to seeing faded pictures of Colorado beetles and bold warnings about swine fever on police notice-boards; but it is a disturbing sight when a bare, freshly-painted board is headed "Crime Prevention" and there is not a single page of official language to be seen pinned to it. Recently, as I walked past a police station just off the Old Shettleston Road, Glasgow, I could not help wondering whether their notice-board showed that the local police were taking no steps to prevent criminal actions or whether they had nothing worth sharing with the public on this subject.

Such light-hearted doubts concerning crime prevention may be justified; but it would be impossible to have any uncertain feelings about some Shettleston work in the sphere of accident-prevention. As a result of their safety system, founded and developed during the past *two years*, the number of eye injuries alone has been more than halved at the North British Bottle Works, Shettleston—one of the constituent factories in the United Glass group. Although this group manufactures a range of glass products extending from 5 c.c. phials to the 10-gallon carboy — including domestic ware, tumblers and stemware — and can claim to be the largest glass container manufacturers in Britain, this Glasgow works specialises in the Scotch Whisky trade. The wine and spirit producers make use of 90-95 per cent of this factory's output. A lot of glass that could easily be related to an infinity of hazards!

Roughly two years ago, when Mr. H. G. Hill was appointed works manager at Shettleston, the safety programme which has produced such remarkable results was gradually brought into being. A qualified nursing sister was engaged and, as a result, Mr. J. Mitchell, who had been employed at the North British Bottle works as a first-aid officer, was sent on several training courses to equip him for his new work. He attended TWI courses run locally by the Ministry of Labour, and afterwards he went to a two-week course for safety officers organised by RoSPA at Wadham College, Oxford.

Glass splinters and burns are a constant danger around this quart whisky-bottle machine. Only the operator's personal vigilance can ensure complete freedom from accidents

After completing six months of study and preparation, Mr. Mitchell became the Safety and Training Officer at Shettleston, and with the ready co-operation of the works manager, who never concealed his personal interest in safety ideas, a committee was set up. The purpose in forming the safety committee was to give members the chance to 'air' opinions on hazards and to recommend how to eliminate them: it meets fortnightly, and top management, the trade unions and employees each send representatives. The works manager, or his deputy, and the nursing sister are also present and Mr. Mitchell acts as secretary. They discuss the safety aspects of management, engineering and training problems very effectively. It is the regular work of this committee that has made this United Glass factory a far safer place to work in.

It is instructive to examine in detail how safety ideas are integrated into the formal induction training in this works. New starters tour the factory—in groups or separately—and the personnel officer, Mr. R. Trotter, gives them a short talk on safety and the use of protective clothing. They are then checked by Mr. Mitchell to see how much of this necessary knowledge they have absorbed and he points out where hazards exist, explains section 119 of the Factories Acts of 1937 and 1948, mentions where safety footwear, goggles, etc., can be obtained, and gives them a safety talk illustrated by slides.

Experienced batchmen weighing raw materials for glass-making rarely fail to guard against dust particles that rise to cause eye injuries

This foreman will not check flame conditions inside the furnace without his safety glasses and gloves to protect against heat radiation and burns

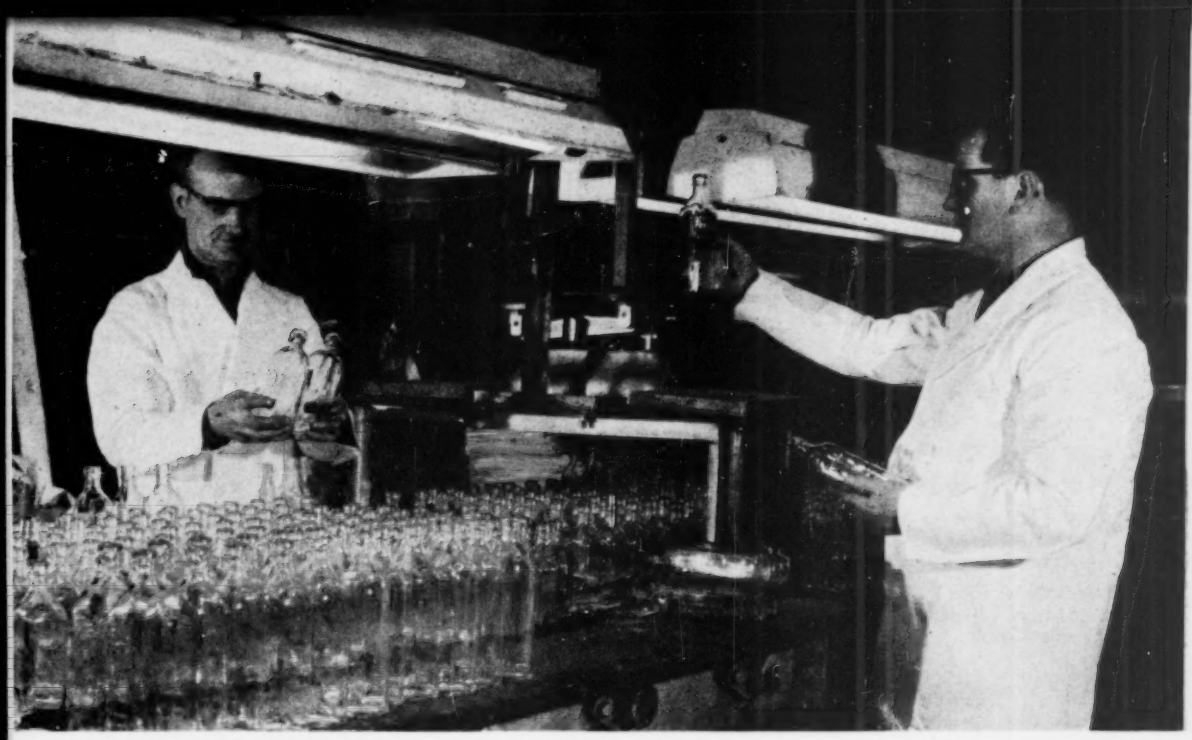
This is followed by a demonstration of how a familiarity with kinetics can reduce strains and help them with their work. Having trained two men as demonstrators, a film was made to illustrate correct handling methods; and this was made more acceptable by its thoughtful introduction, in which the works manager is seen outlining the new scheme to a trade-union branch secretary. During one month there were 75 strains and sprains reported—more than half this number occurring in the van-loading section. After training these people in kinetics, the following month there were only three such cases in their department—a most encouraging reduction. Whereas in 1956 the accident frequency rate was 6, now, thanks to some shrewd planning, it is no more than 3.13.

When I visited this factory it was not difficult to see how machine operators, bottle sorters and furnacemen become so used to handling glass, in molten, crushed or 'smashable' states, that their fears are eventually reduced so much that they relax their caution. That this condition, a lapse from vigilance, is uncommon at Shettleston is a further tribute to thorough safety thinking and instruction; and I was fortunate that my visit coincided with an operation that also serves to underline their success. One of the furnaces was being rebuilt and as this work means disrupting the routines of everyone engaged upon it, the hazards are undoubtedly increased. The rebuild is a six-week task, and whereas three or four lost-time accidents are usually recorded during the course of this exceptionally hazardous work, this time only a single accident has occurred.

One of the chief contributions to this improvement could be detected in the close relationship between the personnel and the safety officers. Initially, recruits receive their safety knowledge from Mr. Trotter, the personnel officer, who sees that every new employee has an illustrated safety booklet and that a safety check form is completed by the entrant. This form is signed by Mr. Trotter to show that seven safety topics — from minor cuts turning septic to danger notices — have been fully discussed; and by Mr. Mitchell to show that his department, dealing more comprehensively with safety practices, has done its work: the form is counter-signed by the starter.

Mr. Trotter, who is responsible altogether for over 500 employees, also remarked that their supervisory staff association meets informally during the winter months; and he feels sure that on visits to other factories these foremen were often impressed with the number of safety posters on display. He added that monthly lectures were also arranged so that apprentices could have gaps in their knowledge filled in by specialist speakers — usually Mr. Mitchell and an engineer. Most enthusiastic for the proper maintenance of the safety consciousness throughout the works, he is convinced that instead of some 200 eye injuries (the 1958 total), something like five a month (or less) is the worst that could be expected during this year.

Speaking to Sister L. M. Long, whose arrival played such a significant part in this safety story, I was given an accurate picture of what it means to have less casualties in a works that is busy for 365 days a year on a four-shift system. In the Health Centre, alongside the personnel department, she dispenses good counsel as professionally as she pours liniment or bandages burns: her work in the prevention of serious injuries is invaluable. As Mr. Trotter confided to me: "*Sister Long is a good teacher and they will take it from her*".



Two trained sorters are inspecting manufactured bottles for defects before packing. If the hands are protected, the inspection is not wholly effective, so that their awareness of the risk of glass splinters causing cuts must be lively

Though she only attends from 9 a.m. to 5 p.m., she has trained 12 first-aiders in little more than a year and these men, who now hold the St. Andrew's Ambulance Association certificate, ensure that a first-aid expert is available on each shift. When training is in progress, a doctor calls at the factory weekly to give first-aid lectures and the nurse gives the training after this, as well as the course in home nursing that operates for girl employees who belong to young families. It was interesting to hear how well first-aiders responded to the discipline of wearing a white coat on entering the Health Centre.

Another use for the uniform as persuasive gear was discovered when a campaign to encourage the wearing of safety glasses began. The well-known firm of J. & R. Fleming Ltd., manufacturers of safety equipment, willingly co-operated with United Glass by sending representatives to Shettleston to give (white-coated) advice to the employees —with considerable effect. The safety and personnel officers found this most helpful because it rarely happens that protective clothing is accepted without a struggle. For instance, several employees complained that they feared injury to their sight through continuously wearing safety glasses.

With the consent of J. & R. Fleming Ltd., a specimen pair of glasses was despatched to a qualified Glasgow optician who declared them *"free from any defect likely to cause disturbance of visual acuity"*. His letter, supporting the view that wearing these glasses for a long time in no way impairs vision, was copied so that each United Glass worker could read for himself this guarantee which was circulated by means of the weekly pay packets. This is typical of the pains they are prepared to take at Shettleston on their employees' behalf. I might add that J. & R. Fleming Ltd., even designed safety glasses of a new type which would not cause irritation of the bridge of the nose, as their part in this campaign.

But there are times when outsiders cannot help—and then a firm has to rely upon human qualities rather than qualifications.

Innocent of the details of his employment, a doctor might certify a man fit for work. There was the case of a furnaceman who reported back for work after an illness; but Sister Long knew what the man's duties were—as well as the fact that he was a cardiac case. (Relating these facts is also an important part of safety work.) The welfare side of her function fascinates Sister Long and she visits the homes of employees who are sick, gives monthly talks on hygiene to canteen workers; and in her monthly accident reports she can advise on ventilation, lighting, and other methods of improving working conditions in hazardous areas.

The ever-present danger of glass, the furnace hazard as well as the usual machinery hazards—are speedily being overcome at Shettleston. An enthusiastic works manager and a very keen and efficient safety committee have achieved in less than two years a transformation in this factory which can only inspire anyone who has ever had a care for the losses industry has suffered—in pounds and in private griefs—through avoidable accidents.

Discussion Leader

Correct pay and proper promotion reduce strain

Need for executive development programmes

I HAVE received such a stimulating letter from Mr. J. M. Bridges, Company Personnel Manager of T. Wall & Sons (Ice Cream) Ltd., on the subject of "Executive Worries and Weaknesses" that I am quoting it in full. He says:

"From Discussion Leader's notes in the April issue I had the impression that 'executive worries and weaknesses' were regarded as a function of industry and commerce specifically. This may not have been implied but it seems to me that we see under this heading only an enlargement of 'anybody's worries and weaknesses. Keeping up with the suburban Jones's, smells suspiciously like getting a desk of the right size and the appropriate china with the mid-morning 'cuppa'.

"I have compiled my own private collection of 'worries' culled from experience. Security or lack of it seems the obvious prime cause. This comes up time and time again—for example, in Elliott Jaques 'felt fair wage', which postulates that all of us know (though we don't know why exactly), when we are paid 'not too little, not too much, but just right!' Paid too little we grumble and become unsettled—paid too much we feel insecure! Insecure because someone will find us out and that will be the end of our fool's paradise.

"Probably the most acute form of worry at the present time is caused by the rate of change in business. Can the individual keep up with it? Can he compete against the younger and better educated man? Factory supervisors are not the only ones who feel that the march of time has broken into a steady trot and that shortly a gallop will be required to stay in the race.

"One sad illusion must be added to the burden of today's executive—that there is still plenty of room at the top for the hard working intelligent man who is willing to struggle up the ladder. There *is* room but the illusion lies in thinking that jobs at the top are the same in kind as those at the bottom, only higher up. The keen wind of competition for top jobs often adds zest to life but can also wear a man into the ground trying to maintain a toe-hold. The friends of yesterday are the subordinates of today; and new friends are also new rivals. The final achievement is to become chairman—to land the loneliest job in the company. In addition, from early battles on the school play-ground we know that the bigger they are, the harder they fall.

"Encouraging philosophy all this for the man who knows that with every tick of the clock he is getting older and a little more out of date, and that his capacity for absorbing new knowledge is growing less and less. Possibly, the family is growing up and making greater demands on his resources for education, clothes and amenities. Top all this up with the back garden growing wild and you have a nicely overworked, harassed executive whose worries eat into the lining of his stomach and whose salary boosts his blood pressure not his contentment . . . .

"It's no good saying that the executive has asked for it and that he could choose a job more suited to his ability and inclinations. The fact is that we don't know what is good for us."

Mr. Bridges sees an inappropriate rate of pay, the too rapidly changing face of business, the keen wind of competition (both for those who win as well as for the losers), as contributing to the worries of executives. An equally thought-provoking list of contributing factors comes from Mr. D. E. Buxton, Administrative Manager for U.K. and Ireland, of Sabena (Belgium World Airlines). He, too, thinks that an over-rapid promotion, which compels an executive to leap from one task to another with ever-increasing responsibility and without the opportunity to consolidate the knowledge and experience he has gained, is causing the executive to live "in a constant state of tension and fear lest he will not be equal to the new task in hand and may eventually burn out, at an early age." Lack of proper training which explains the reasons why things are done (and their calculable consequences), is also a possible cause of instability.

The ceaseless round often leaves the executive with too little time for thought and so he does not develop a sound basic philosophy. Mr. Buxton says:

"For peace of mind and, I think, for greater success, the executive with a stable philosophy has a great advantage.

It would be interesting to discover how individual firms have profited from executive development programmes.

A guinea is paid for each letter published

Too much business has been conducted on a day-to-day basis, where decisions are largely dependent on what is expedient. A sound basic philosophy gives the best chance of establishing a consistent policy, which is a very necessary attribute of good management. The development of a good philosophy can only come about with deep and careful thought. This requires time and it is the relentless pressure of business, denying quiet time for thinking, which is the root cause of anxiety and inability to develop a stable and consistent outlook.

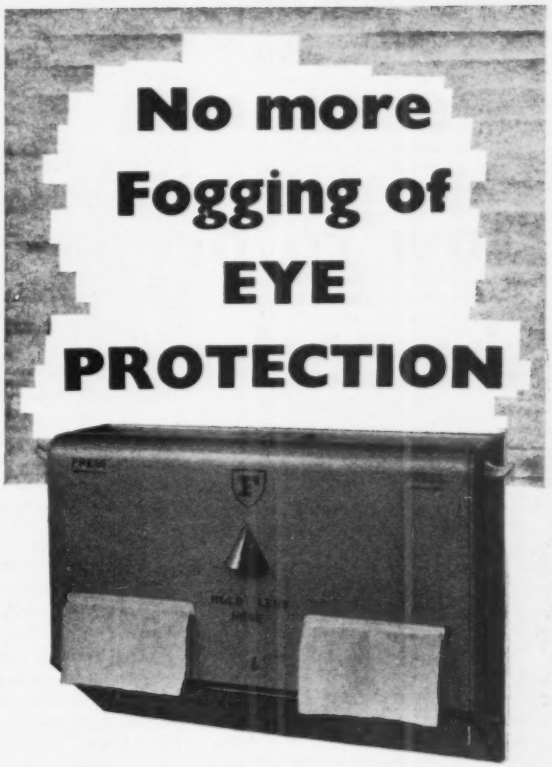
"Every executive has an individual personality and, like every other human being, has some basic weaknesses in his character. Unless the executive has time to discover his own weaknesses and make deliberate efforts to minimise them, he cannot be a confident leader. The higher he rises in his firm, the more anxiety his weaknesses will cause him. The ability to feel at ease on a social occasion is, to a large extent, a question of confidence and the man who feels sure of himself can feel comfortable in any society. The recognition of his personal weaknesses and the realisation that they can be overcome, by advice and training, will go a long way towards increasing an executive's confidence.

"A sound organisational structure in a firm, with a genuine and clearly-defined delegation of authority also greatly alleviates anxiety, since an executive, working under these conditions, is able to concentrate on his proper work without constant fear for his job or of unwarranted interference from others."

Both these correspondents stress that worry is caused by a feeling of insecurity. An executive feels insecure about such things as his remuneration, the changing rate of business and lack of training. Often he lacks a knowledge of his own weaknesses. Some firms are beginning to recognise these needs in their executives.

Consequently a new development in this country is the establishment of *executive development programmes* to help to combat these troubles. One aspect of these programmes is a systematic merit rating review, carried out by a group of the "executives' seniors." This is followed by a counselling interview with the executive concerned, in which the evaluation is explained to him and the lines of future development mapped out. The executive gains the satisfaction of "*knowing where he stands*". I have been making a special study of the strengths and weaknesses of this approach lately and I hope to return to the subject another month when I have more space to do it justice.

One thing is certain. An executive who worries is wasting some of his precious energy in this unproductive exercise. A study just published by the Science Research Associates in America throws light on this point. This Institute has studied 67 holders of doctorates in chemistry in three big industrial companies to find out what personality factors affect creativeness. The 67 were grouped, by supervisors, colleagues and subordinates, into 33 "more creative" and 34 "less creative" scientists. From these studies a profile of the creative scientist and his environment was developed. He emerges as more dynamic, articulate and independent than the less creative and, above all, *he worries less. He is independent in his outlook—and confident.* The less creative scientist on the other hand is conventional in his attitudes and feels less secure in his job. Here is a piece of objective evidence showing that there are practical benefits to be gained by companies who conscientiously set out to reduce the worries of their executives.



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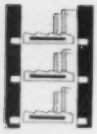

Visual Aids

by Alec M. Hughes

How to prepare for the perfect show

THE reader who has borrowed films regularly from only some of the industrial film libraries mentioned in the last issue will have encountered (and one hopes surmounted), some of the obstacles to the successful presentation of films in his organisation. One hopes that this is so because far too many screenings—including not a few by professional projectionists—are marred by indifferent projection and faults in accommodation.

How often do you find shows commencing with the numbers 9, 8 7, 6 etc., projected upside down as the operator screens the leader designed to enable him to focus correctly before the show. If the audience regularly suffers in this way, a little light relief is provided as they shout out the numbers; but alas, even this sort of audience-participation can be terminated as the sound track crashes in because the projectionist has left it all at full volume before switching on.

If you want to avoid this kind of thing, then you should study two admirable booklets. The first has recently been issued by the *British Electrical Development Association*. In a few hundred words, ably supported by simple and clear diagrams, "Your Film Show" suggests how to arrange the room, how to ensure that you have the clearest picture and the best sound in a given set of conditions; and how to introduce that little bit of showmanship which makes all the difference when using a medium which, whether you like it or not, is always compared by the audience with the standards set by the most luxurious of commercial cinemas. As the booklet tactfully concludes:

> *"Having carefully followed these suggestions you should now be showing to a satisfied audience, and be feeling pleased with a job well done, and if they forget to thank you, it only means that you have been a master of your craft and have been so unobtrusive that they have been completely unaware of your presence".*

A much more detailed publication, designed for training officers in the *National Coal Board* is "Film and Film Strip Projection in Training". With chapters on Should a Good Instructor use Films?, Putting Films to Work, Film Rooms and Screens, Choosing and Installing Projectors, Projecting a Film, Care and Maintenance of Projectors, and Care of Films and Filmstrips; and useful appendices on equipment and books on the subject, this really tells the instructor all he needs to know when first embarking on the use of visual aids.

The instructor or training officer who does not take the trouble to master most of the facts provided in these two publications cannot be said to be taking the use of visual aids very seriously, however frequently they might feature in his curriculum.

Of course, this does not mean that visual aids should be used only when conditions are perfect. If that were so, they would hardly be used at all. But it does mean that one should take intelligent account of the prevailing con-

A BASIC FILM LIBRARY FOR THE INDUSTRIAL USER

If you have not yet started using films and filmstrips, read the following pamphlets before you begin. If you are already a regular user read them anyway, in case there is some point you have overlooked.

Your Film Show—Electrical Development Association, 2 Savoy Hill, London, W.C.2.

Film and Filmstrip Projection in Training—National Coal Board, Hobart House, London, S.W.1.

If you obtain the following distributors' catalogues, you will have information about a comprehensive range of films and filmstrips suitable for technical and management education and for training. There are, of course, many other distributors, some with quite large libraries; and you should regularly add to your basic collection. Keep a card index of the films you see, noting individual points in films which may be useful for illustration or as a basis for discussion. A hire charge is made for some or all of the films distributed by the libraries marked by asterisk.

British Iron and Steel Federation, Steel House, Tothill Street, London, S.W.1
British Transport Films, 25 Savile Row, London, W.1
***Central Film Library, Government Building, Bromyard Avenue, London, W.3**
***Educational Foundation for Visual Aids, 33 Queen Anne Street, London, W.1**
Esso Petroleum Co. Ltd., 36 Queen Anne's Gate, London, S.W.1
The Gas Council, 1 Grosvenor Place, London, S.W.1
***G. B. Film Library, Aintree Road, Perivale, Greenford, Middlesex**
I. C. I. Film Library, I. C. I., Millbank, London, S.W.1
National Coal Board, Hobart House, London, S.W.1
Petroleum Films Bureau, 29 New Bond Street, London, W.1
Shell-Mex and B. P. Ltd., Shell-Mex House, Strand, London, W.C.2
Shell Petroleum Co. Ltd., Public Relations Dept. No. 1 Kingsway, London, W.C.2
Sound-Services Ltd., Wilton Crescent, Merton Park, London, S.W.19
United Kingdom Atomic Energy Authority, 11 Charles II Street, London, S.W.1
Unilever Ltd., Unilever House, Blackfriars, London, E.C.4

A training class for instructors of new recruits to the coal-mining industry
NATIONAL COAL BOARD PHOTO

ditions. An excellent illustration of this was given in the film "Successful Instruction", a Harrogate prizewinner in 1957, which was made by *R. H. R. Productions* for the *Army Kinema Corporation*. An N.C.O. instructor, whose practical outdoor exercise was cancelled by bad weather, gives an improvised lecture in a Nissen hut on the design and use of a mine. He tears down a poster in order to use the blank reverse side as 'a blackboard'. On this he draws a plan of the mine and then, to demonstrate its use and encourage class-participation, he has the individual members of his squad use their mess tins as mines to demonstrate (using the legs of their beds), how they would attach such a mine to a railway line.

Ideal conditions do not necessarily produce the best training and education : that depends on the knowledge of the instructors, their personalities and teaching abilities, and their success in evoking an enthusiastic response from their students.

Recently, the writer had occasion to attend a conference in a hall seating about a thousand people, which provided an unfortunate instance of planning not having been related to the conditions in which the conference was to be held. A programme had been drawn up—intelligently linking films with lectures—so that each lecture was preceded by a film, to ensure that the speaker could refer to examples with which all his audience would then be acquainted.

The first lecture finished and the film was announced. This was just as well, because it was not easy at first to recognise the faint pastel shades on the screen as the colour film in question. Sunlight streamed around the edges of the blackout curtains, and the film proceeded in complete silence. No one had thought to check the equipment before the show began and the loud-speaker was defective. Eventually the film was stopped, and a whole morning's programme was completely disorganised—with one speaker departing a little from a carefully prepared brief to say : "Now had you seen the film which should have preceded my talk you would have noticed . . . ".

One cannot be too careful about projection, and even some anticipation of the use of films when designing a building is no guarantee that all will be well. One school the writer knows, built between the wars, was unusual for its time in having a projection room incorporated in the design of the main hall. But when the building was completed it was found that the projection booth porthole was so positioned that the light from the projector fouled a balustrade in the balcony. The solution—to move the porthole—was applied in a somewhat unorthodox way. The porthole was re-positioned so that you could only operate the projector by lying on your stomach.

But suppose that conditions for projection are adequate, if not perfect ; and assume that you have chosen and booked the appropriate films for the occasion, and know how to project them efficiently. Are you still making the best use of the medium ? One factor remains—programme planning. The Shell film catalogue (1958 edition), has some useful observations by Sir Arthur Elton on this subject. He writes :

> *"A programme of films must be chosen as carefully as guests for a party, a picnic or a poker game, and the organiser must be continually aware that good films can be spoiled by bad programme building, and poor ones made to build up into what may seem quite an exciting whole. The cardinal rule is to put the best, most interesting or most arresting film last. If there is an interval you can have two high spots, one just before the interval, and one at the end. So whether the purpose is to train or teach or educate or inform or amuse or a bit of each, select the main film first and work up to it through the others".*

This is most useful and rarely found advice in a film catalogue, and the Shell catalogue is notable too for including suggestions for programmes for different types of audience.

It is all too easy, when advising others on the use of films, to counsel perfection—to argue that every film should be viewed once or twice before selection and viewed again before use ; that detailed records be kept of the content of each film ; that audience reactions are noted and specific points in each film related to individual items in the training programme and so on. In some cases all this, and more, is essential. But until one has accumulated sufficient experience, perhaps the best advice one can offer is to make careful use of a few films (from a reputable review or the suggestion of a respected colleague) that you feel sure will be suitable for a particular job. On the first occasion follow some known procedure, if there is one. Then experiment a little, linking the films more closely with your lecture material, or to your discussion with the group.

You should, therefore, study as many film reviews as possible (so long as you realise that whatever any review might say, in the last analysis you are the only person who can judge whether a particular film really suits your purpose) ; and, if the nature of your training programme permits, introduce a new film along with some you have used before and know to be reliable. In this way you will slowly widen your knowledge, become familiar with different catalogues, learn to judge the reliability of information from different sources, and come to regard film as an aid which must be used with discrimination—if it is to be effective.

by **Bernard Sluman**

Accidents empty the purse and cripple output

MY IDEAS on safety practices were refreshed by a meeting last month with Mr. James Tye, administrative director of the British Safety Council, who was back from his whirlwind tour of safety organizations in New York, Chicago and Washington D.C. Though we are often told that, in America, industrial safety is more ordered and effective than in the U.K., it is a rare event to encounter someone who has just completed a penetrating appraisal of their methods.

Employee accidents cost money: that is a prominent thought in the minds of American managers. The same problem of costs plagues management in this country. For instance, Mr. Tye has carried out careful researches in a West London factory, where his findings established that a *single* cut finger costs the firm as much as £12 per minute—and that is even allowing for the fact that costs in power are reduced when the casualty's machine is idle.

Naturally, in the United States, insurance companies have more than a fatherly interest in these matters: they are tremendously active in the safety field—over 50 per cent of the executive members of the National Safety Council representing insurance companies. How far do they go? First of all, they insist on certain safety regulations being enforced. They also produce literature covering every aspect of safety in the home, on the roads and at work. But they offer something which no safety officer is expected to give his managing director —*money*.

One firm that managed to achieve a particularly low accident rate received a rebate of 4,000 dollars from the insurance company. What firm in the U.K. would not redouble its efforts with such attractive bait? It is Mr. Tye's contention that in this country we pay too much attention to the human misery and suffering caused by accidents. But surely the hope of profit is a leading motive in business? In the United States, the most valuable raw material is labour, and management will do all in its power *to preserve it at its most efficient and productive peak.*

Almost exclusively through employee education, American industry has attempted to implement its safety programme. "How does this differ from our own efforts?" I asked Mr. Tye. Surely we pay attention to instructing our employees in the rules of safety; we warn them that there are hazards to their very lives. He would not disagree, but he also feels that the Americans are more conscious of the importancee of the worker's individual contribution. We still tend to rely too much on making the machines foolproof. In fact, he maintains that, if all the regulations regarding machine-guards etc., were strictly enforced, a considerable number of machines would become inoperable.

Are the Americans succeeding to a greater extent with their own methods? Mr. Tye quoted a particular example to enable us to judge for ourselves. It concerns an especially difficult firm which employs 270 Puerto Ricans out of a total working population of 300. Their difficulty is over communication: to put over their safety message, the firm ordered safety posters which depended on their pictorial appeal rather than on the wording. The insurance company covering the firm insisted that there be a full-time safety director to implement the programme. The record of this firm so far is one million man-hours without an accident.

Concentrate on the man, say the Americans. Mr. Tye found that this paid off in the end. The American managing director is concerned about wastage, and the most expensive form of it is labour—that means you really have to look after it to save money—let alone to make money. How do we concentrate on the man? First of all, Mr. Tye feels that we should learn a further lesson from the United States: make it the rule rather than the exception to issue protective equipment (especially things like goggles), to the individual instead of to each machine. The practice of supplying items such as safety boots or helmets free of charge also prevents workers from excusing themselves from not wearing them for financial reasons. It all comes back to the question of efficiency: are we more concerned with the man's health than with his value as a producer?

It appears from the news we read that workers in Britain are at last beginning to think in terms of making their own safety provisions. It works in the States, says Mr. Tye, where a man will be disciplined by his Union if he has disregarded safety regulations; and this is because the Unions include safety clauses in their bargaining for a work contract. The employer is obliged to guarantee safety measures before the agreement is signed.

The relevance of having worker-participation in safety administration can be judged from the following facts. In hazardous industries (the steel, rubber and automobile, for example), there is worker representation; in non-hazardous industries, there is none—and the accident rate is lower in the hazardous industries.

The picture of safety provisions and methods in the United States is completed by Mr. Tye's reference to the New York University Centre for Safety Education and their twenty courses on safety—at least half the students attending are active safety engineers. So it would appear that just about everybody in America is interested in safety. (Even President Eisenhower, who was recently presented with an award by the British Safety Council, takes an active interest in the subject.) When I asked Mr. Tye *who* was responsible for the improvement of our own safety programmes, he replied that it was the managing directors: they are at the head of business. *And a minor accident can increase their costs by as much as £12 per minute.*

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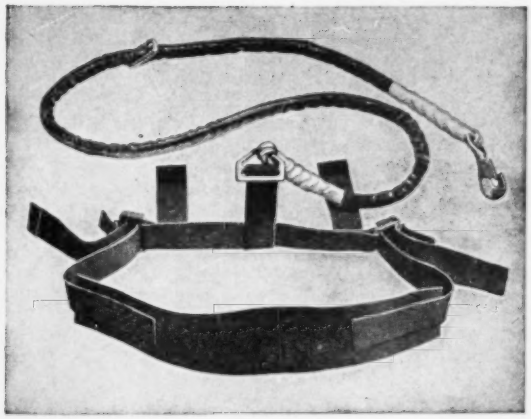

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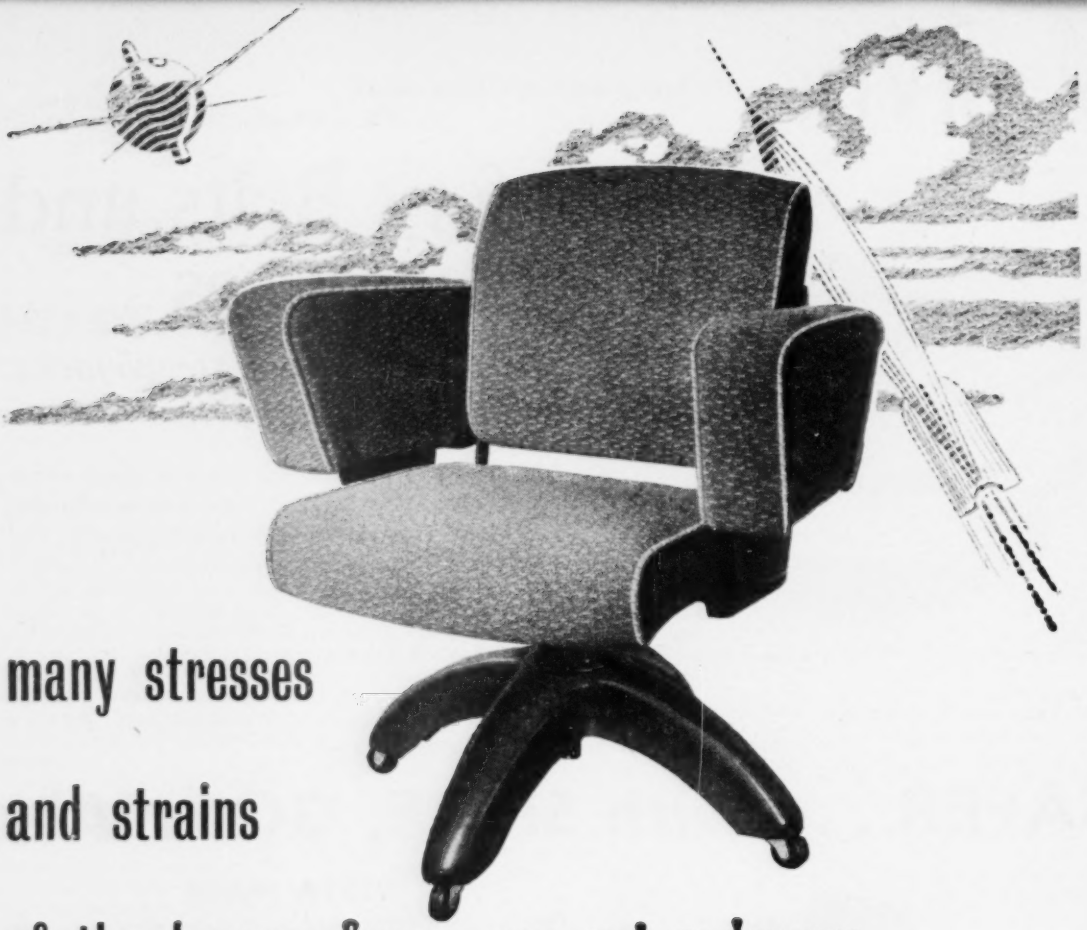

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by Anthony Penny

Standards to improve posture and health

OUR forefathers believed that their trees contained familiar spirits who had to be dealt with according to category and temperament, when the trees were felled, otherwise they would linger and be nuisances in the boats or furniture—or whatever the trees became. That was a long time ago.

But maybe times have not changed fundamentally since then, because the old devil called "What-was-good-enough-for-grandfather", still lurks in a good many places: his position is protected because he has become so respectable. For instance, he has haunted office chairs and tables for so long that his requirements have become standard practice—to the discomfort of the users. These people do not blame him for their backache because "there cannot be much wrong with a chair anyway".

The truth is that there can be; and the British Standards Institution has issued two texts* for a firm exorcism of the old devil; and principles and dimensions are given for the manufacture of office chairs and tables which will allow their users to work in comfort. The most important faults in conventional office furniture pointed out are that chairs and tables are often too high, and that the backs of the chairs do not allow correct posture to be assumed.

The evidence on which these recommendations are based has been derived from several sources. Clinical evidence has revealed the results of habitual bad seating. The principles set out are drawn from a number of anatomical and physiological studies, while the measurements are taken from anthropometric researches. The recommendations have been framed so that there is no restriction on materials or construction and as little as possible on design.

Good posture. "In any seat design there should be no question of holding the sitter in any fixed position". Seats which do this—such as tractor seats and post office sorters' seats—must surely be the most uncomfortable in use. The new standards say that seats should be designed so that the user can take up several positions without being forced into any unnatural postures.

The seat. In designing the seat of a chair it is necessary to consider its height from the ground, its width, depth, pitch and shape. To begin with, the seat should be of such a height that most of the bodily weight is supported by the "pin-bones". The feet of the sitter should be able to be placed on the ground without any compression of the soft tissues at the back of the thigh, which are not adapted for bearing loads. The usual height of chair seats is 18 inches, whereas the recommended height is 17 inches. (Obviously, a footstool should be provided for very short people.)

For stability and lateral mobility, the seat should be 16 inches wide at the middle of the effective seating area; and the seat depth must be 14 inches to give adequate support to the trunk; and also so that the front edge of the seat effectively clears the backs of the calves.

A further suggestion is that the seat should be a plane surface but covered with a thin layer of upholstery so that the weight is taken on the areas intended for it, and for there to be no restriction to one position. For desk workers, the seat should be horizontal so that it is easy to lean forward to work at the desk. However, a slight pitch backwards helps to keep the trunk pressed against the backrest.

The backrest. This should be planned to fit the lumbar hollow between the thorax and the top of the pelvis. The bottom edge of the backrest would normally be 8 inches above the seat and the upper edge would be 13 inches. For most people these measurements allow free movement of the thorax, and also permit the back rest to take the strain from the muscles and ligaments of the back.

Desk height. It has been found that typists using adjustable chairs fix the height of their seats in relation to the height of their desks—which often means that with the standard desk height of 30 inches, their seats will be too high for proper working comfort. The height that is recommended is 28 inches; and the underside of the desk should be high enough to clear the upper surfaces of the thighs.

It is worth recalling that a correct seating posture favours full lung capacity breathing; free exhalation of carbon dioxide and proper oxygenating of the blood; unrestricted functioning of the eliminatory systems; lessened expenditure of nerve force; and reduction of muscular effort *as well as greater comfort and increased efficiency*. Assisted by a scientifically constructed chair, a proper sitting posture will also prevent an abnormal increase in the resistance met by the blood in the blood vessels and "will relieve the heart of an obstacle, thus tending to maintain a normal blood pressure".

Fatigue caused by bad postural habits is preventable and every firm that seeks to suffer less from lost time and to increase its output should show concern for the seating arrangements (and habits) of its employees. When it comes to intricacy of behaviour and organisation, the human body compares favourably with the latest computer, so that these new British standards, offering a simple way of assisting bodily maintenance, are surely worthy of serious contemplation by those concerned with the welfare of people at work.

(1) "Anatomical, Physiological and Anthropometric Principles in the Design of Office Chairs and Tables" by Dr. W. F. Floyd and Dr. D. F. Roberts (B.S.3044).

(2) "Anthropometric Recommendations for Dimensions of Non-adjustable Office Chairs and Tables" (B.S.3079).

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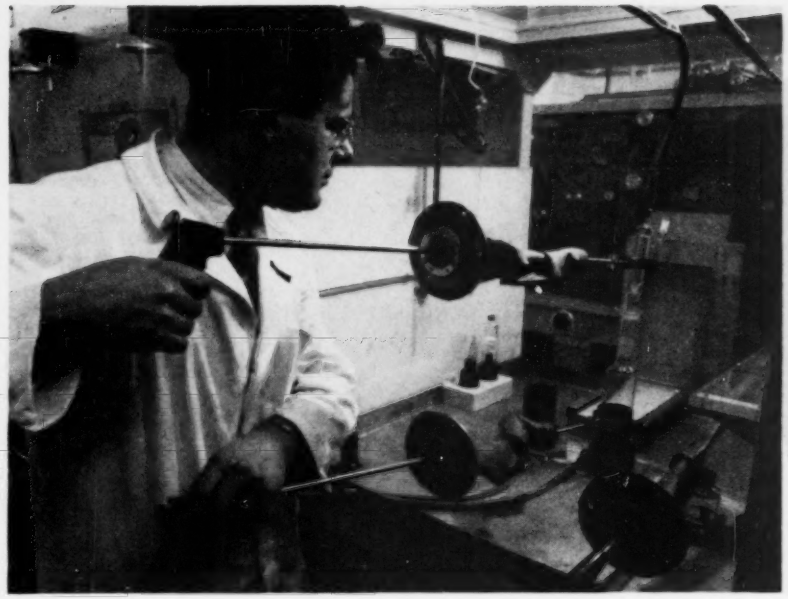


While this chemist is handling radio-active phosphorous, he is protected by a 1-in. thick screen of plastic

by Dr. E. E. Lieber

MEDICAL OFFICER, MICROCELL GROUP OF COMPANIES

Facing The Atomic Menace

Part 3—Advice on the prevention and treatment of radiation injuries

WE are passing from the coal and steel age into the atomic age; and the time is not far distant when we shall have insufficient coal, oil and gas for our needs. Just as the coal and steel age had its industrial hazards (such as silicosis), so the new atomic processes are bound to bring their risks with them. Sixty years ago radioactive materials, then being used for the first time, tended to cause skin damage. We know now that after 10 to 15 years these same materials could produce cancer of the skin and even of the bone; and it has taken us 10 years to learn that they are capable of causing cataract of the eye and even of affecting future generations.

Much investigation into the permissible radiation levels for human beings exposed to ionising radiation has been carried out. It is known that our environment has been radioactive—from time immemorial. Careful studies have shown that the main sources of radiation today are from diagnostic and therapeutic x-rays rather than from radioactive fall-out and the industrial uses of isotopes. In general it has been shown that the latter source is only one tenth as hazard producing as the former. Of course there will be variations from place to place but in any circumstances the figure for hospital x-rays is not equalled by other sources.

Some of the individual safety levels have been established from the evidence of the effects of radiation on human beings: others have been established from the results of experiments carried out on animals when radioactive isotopes have been taken in and retained by the body. Some levels are derived theoretically by deduction from our knowledge of experiments in metabolism. Nevertheless, all these recommendations are both realistic and incorporate safety margins; and are accepted as the standard of radiological protection by British industry generally and for the control of radiation hazards in the isotope industry in particular.

In spite of all this knowledge, the whole sphere of the effects of radioactivity is still problematical. What we do know for certain is that radioactive substances can cause serious burns, permanent injury to the reproductive

organs, and cancer. These are the main risks. Radioactive material can be brought into the body through the mouth, by inhalation or ingestion, or by absorption through the skin.

In contrast to conditions in other industries we have, at present, no statutory regulations in the United Kingdom governing levels of exposure to radiation. Nevertheless there are certain principles which should be adhered to. They are contained in the following publications which should be carefully studied:

(1) *The Factories (Ionising Radiation) Special Regulations, (H.M.S.O., 1957.)*
(2) *Code of Practice for the Protection of Persons exposed to Ionising Radiation, (H.M.S.O., 1957.)*
(3) *British Journal of Radiology, Supplement No. 6: Recommendations of the International Commission on Radiological Protection.*

These publications give us in definite terms the standards to be observed in any industrial concern dealing with radio-isotopes. The fact of most importance which emerges is the necessity for suitably adapted premises and the proper physical conditions, e.g. handling equipment, wherever ionising radiations are present. It follows that wherever radio-isotopes are being used, the first principle to be observed is the establishment of proper plant lay-out.

Penetrating radiation can be prevented by the correct radiation absorbing material, e.g. lead or concrete. In the case of nuclear reactors in atomic energy establishments, several feet of concrete may be necessary to protect personnel; but in industrial plants relatively light protection may be adequate. The same objective may be attained if we arrange the processes in such a way that persons who will be exposed to radiation spend the minimum of time in radiation areas. In conjunction with this is the principle of remote and automatic process controls which is generally coming more and more to the fore-front in industry.

A further problem arises in processes where radioactive compounds are handled. Here we have to avoid the spread of contamination and the attendant risk of inhalation and ingestion of toxic materials. We have to ensure the adequate ventilation of working areas, apart from maintaining the usual proper standards of cleanliness. Another problem, the prevention of contamination of skin and clothing, can be solved by the use of the special protective clothing mentioned above, and the risk of ingestion and inhalation can be countered by using breathing apparatus and masks.

Unfortunately, medical science is still not in a position to pin down any particular injuries as being solely due to radiation because we have, as yet, no means of distinguishing between cases which have arisen spontaneously and those which arise from radiation. It follows that the only means at our disposal to prove the efficiency of radiological protection will depend on statistical demonstration of cases of persons who have been exposed to any particular radiation. Of course, there will have to be available an additional history of exposure of each individual and for this reason an accurate assessment of the radiation exposure of every worker is invaluable.

The answer to this is proper monitoring. The most common type of monitoring used is the photographic film worn by each worker. Because ionising radiation impinging on photographic emulsion has the same effect as light on silver bromide, the density of the fogging of the developed film is a good indication of the quantity of radiation to which the individual has been exposed. This method is comparatively inexpensive, costing only a shilling or two per week per worker, but it gives a very good lead for the monitoring of most types of radiation.

In some industries, where radioactive substances are used extensively, the film badges are collected weekly to be sent for developing and measuring by a company providing a monitoring service. (These badges can be hung on the wall or worn on the wrist strap.) Pocket ionisation chambers are often used to give an immediate reading of exposure to gamma rays. On the basis of these measurements steps can be taken to limit the time spent in radiation areas, to isolate certain kinds of work and to provide the right protective clothing and breathing apparatus.

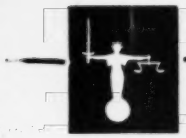
The measurement of internal radiation is more difficult and complicated. It is possible to estimate the total contents of ingested radioactive material by taking urine specimens, but this requires an elaborate chemical technique and a detailed knowledge of the metabolism of the elements in question. We possess instruments which are capable of measuring radiation emitted by the body when radioactive material has been absorbed into it.

Routine pre-employment medical examination is important and should include chest x-ray and blood counts: and persons with a low white blood-cell count should be classified as unsuitable. One criterion not to be overlooked is the importance of maintaining a good standard of general health. The worker should be trained in the handling of all radioactive materials and given special instructions on how to protect himself. Eating or bringing food into places where radioactive substances are handled should be strictly forbidden. Female workers must not be allowed to bring lipsticks or other cosmetics with them, and personnel and safety officers must see that the workers have easy access to washbasins, besides making sure that the usual prophylactic measures required in all factories and workshops are strictly adhered to.

In addition to the pre-employment examination, periodic checks and frequent blood counts are required. Slit-lamp examination of the lens is helpful in order to detect incipient cataract. The general plan of worker protection can be enormously helped by the keeping of detailed and accurate records of morbidity and sickness absence, the incidence of leukæmia, aplastic anæmia and bone sarcoma. It is most important to have good statistical material gathered from long periods of observation. Actually, once radiation damage has occured there is (at present) very little one can do.

There is little doubt that in industry we are only at the beginning of the use of radioactive isotopes, but as time goes on, their uses will continue to increase. It is clear that they can be dangerous, and adequate precautions must be taken before workers are exposed to health risks. More research is needed to discover better measures. In spite of this, the hazards are well appreciated and it is certain that everything humanly possible is being done in order that the risks may be reduced to within the standards of accepted industrial practice. I believe that we are not far off this goal.

In many atomic factories, special clothing has to be worn by the staff as a precaution against taking active dust home. The clothing is monitored before being re-issued



RIGHT SIDE OF THE LAW

by COUNSEL

Duty of Care Varies With the Individual

AN interesting question which has come before the courts from time to time is whether, if a workman is unusually accident prone or suffers from a disability, the employer's duty of care to him is greater than to the normal man. Clearly, this is a matter on common sense. An inexperienced man starting work in a potentially dangerous occupation, say a foundry or a coal mine, for the first time, obviously ought to be given much more warning and advice of possible risks than a man who is fully experienced.

Let us first consider the legal principles involved ; briefly they are that an employer must take reasonable care for the safety of his workmen and that he owes a particular duty to each of them. If he becomes liable in tort for some injury suffered, it is because he has failed to take reasonable care of the particular employee who has been injured. Therefore, the liability depends upon the circumstances in which the accident happened. This is easy enough to state but often extremely difficult to apply.

Take the case of the man with a disability who is doing a job where the consequences of an accident to him will be rendered much more serious than they would normally because of his disability. (For example, the case of a man with only one sound hand who has to work a circular saw.) Is the employer bound to take special precautions which he would not usually take in respect of such a man assuming, of course, that he knows of the man's disability? Is the employer liable when an accident happens, if he has not done so?

The leading case on this subject is *Paris v. Stepney Borough Council*, which was decided in 1951. This was the problem before the court. Mr. Paris, a fitter, worked in the defendant's garage, and to their knowledge he had only one good eye. His work involved some danger to the eyes from flying chips of metal, dirt and grit. The risk was slight and it was not the practice for men employed in such work to protect their eyes with goggles. In the course of this work, Paris hit a bolt on a vehicle chassis with a hammer to remove it and a chip flew off and destroyed his remaining eye. It was claimed that the employers were bound in his case to take special precautions by providing him with goggles (because of his disability), even if they could not be expected to take them in the case of men with two good eyes doing the same work.

The trial judge agreed and awarded over £5,000 damages. The Court of Appeal disagreed with this decision—"a one-eyed man is no more likely to get a splinter or a chip in his eye than is a two-eyed man . . . . the greater risk of injury is not the same thing as the risk of greater injury". The House of Lords decided, finally, in the workman's favour ; the condition of the workman's eyes was a relevant fact for the employer to take into account in deciding what reasonable precautions should be observed. In the circumstances, said the House of Lords, his employers owed a special duty to Paris; and whether or not goggles should have been supplied to workmen with two eyes doing the same job, they should have been supplied to him.

It is, of course, a well-known fact that, for no obvious reason, some people are accident prone. The wise employer, if he becomes aware in time that he has such a person on his staff, will not employ him on work where he will probably injure himself and perhaps create heavy liability in damages.

But there is the more usual and tangible case of the employee who is more likely to get into trouble, either because of some disability which slows his reactions or because he is inexperienced. There are two extremes: the inexperienced man who fails to appreciate the danger, and the experienced man who has become careless through familiarity. The point and the question of liability was well illustrated in a recent case, again in the House of Lords—*Qualcast (Wolverhampton) Ltd. v. Haynes.*

Haynes was a moulder in this firm's foundry and a fully experienced man, having been a moulder all his life. He was injured when the contents of a ladle of molten metal that he was holding slipped and fell on his foot. Spats and strong boots were available in the firm's stores as Haynes knew, but he had never been ordered or advised to wear them. He was, naturally, fully aware of the risks of metal splashing. However, in spite of that, both the county court judge and the Court of Appeal held that the employers were liable in some degree because they had not actually advised the injured man to wear the spats. The House of Lords disagreed.

This man was an experienced moulder, said their Lordships, and his employers had, in the circumstances, done enough by making the spats available to him to his knowledge. "An experienced workman", they added "dealing with a familiar and obvious risk may not reasonably need the same attention or the same precautions as an inexperienced man"; and again "the duty (owed by the employers) may vary with the worker's knowledge and experience". The employers did, in fact, advise inexperienced men to wear spats. Their Lordships also observed that reasons given by judges in previous cases for deciding whether or not there had been negligence where such decisions would have been left to juries if there had been juries, must not be treated as propositions of law.

The lesson, it is suggested, is this : personnel managers and safety officers should beware of applying safety measures by rule of thumb, however difficult it may be to do otherwise. The duty and the possible liability will vary with the individual. So far as possible, therefore, the idiosyncrasies of individuals must be taken into account, however difficult this may be in a large plant.

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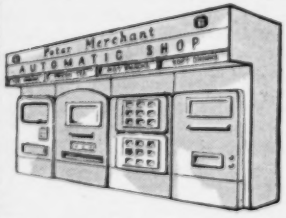

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Altogether, 298 factories are covered —virtually all the pottery works in North Staffordshire—which represents approximately 63 per cent of the potteries in this country and almost 75 per cent of the workers in the industry. The processes of pottery manufacture and their attendant health risks are examined in great detail.

Government Pension Proposals. *Industrial Welfare Society, 5s. 6d. post paid.*

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The four papers given by a professor of economics, an insurance company official, a consulting actuary and a pension-fund administrator are now published in booklet form. The papers deal with the forces pressing for change in the State provision for old age, the effect of the Bill on life-office schemes, the practicability of contracting out and a variety of administrative problems.

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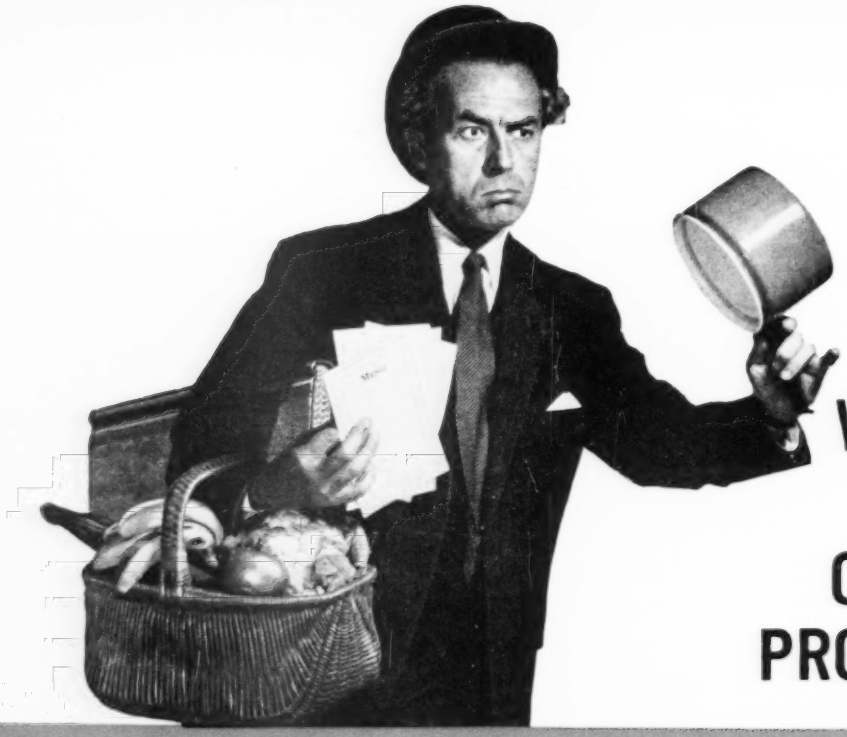

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AS SIR HALFORD REDDISH, Chairman and Managing Director of Rugby Portland Cement Co. Ltd., has observed, this is essentially a practical book and *"he will be a very extraordinary man who cannot pick up from it some ideas which he can adapt to his own business"*.

Dr. Copeman bases his writings on some 300 interviews during recent years with top and very senior executives—including thirty interviews with managing directors to gather information for this book. Every point made in the text is illustrated with anonymous case-histories; and the experiences and management practices of 68 chief executives are quoted.

Many new techniques of management being used successfully by business firms have been unearthed by the author, and Dr. Copeman's own new classification of firms into nine different organisation types is described.

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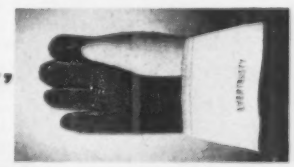

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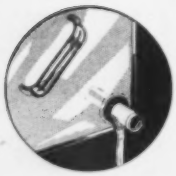

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NEWS AND IDEAS FOR CANTEEN MANAGERS

by C. J. Elliott

Hygiene in the Works Canteen

THE enforcement of hygienic conditions in the modern factory has conferred great benefits on the worker. The effects are undoubtedly most noticeable and appreciated in the works restaurant, and it is here too that the benefit to management should be most obvious. A clean, well-kept restaurant means not only a reduced threat to the workers' health, but a probable rise in output. Although management may not expect great profits from the restaurant, they should endeavour to make up part of their subsidy by attracting the largest possible number of customers. If the canteen is as grimy and uninviting as the workshop, who can be amazed if the worker takes his meals and his money elsewhere?

Cooking utensils and tableware. When buying crockery it is a good plan to select items with a well-glazed, smooth surface; they are readily cleaned. Similarly, avoid tableware with awkward corners, fluting and narrow mouths or tops. Such equipment is always most difficult to clean, and so encourages catering staff to be negligent when they have to poke around sharp corners, curves and ribs. Thus, by the selection of plain, smooth surfaces, the work is made lighter, time is saved, and a larger over-all cleanliness is guaranteed. It should also be remembered that cracked or chipped chinaware harbours germs. There is nothing more degrading for a catering manager than to be informed by his customers that crockery is not safe.

Cooking utensils should be of stainless steel, wherever possible. This type of equipment has the merit of being non-corrosive, easily cleaned and almost indestructible. It may involve heavy initial expenditure, but the investment is long-term.

Table cutlery should be of such a character that it exhibits a smooth, hard surface without dirt-holding joints. The knife with blade and handle in one piece has especial value: there are no crevices to act as dirt traps, and the whole can be immersed in water without harm.

Heavy equipment. Solid-top ranges are a great help in the maintenance of hygiene in the kitchen. Not only do they give maximum area for cooking, they also lend themselves to easy and rapid cleaning.

Tables and chairs. Tables are now almost universally obtainable with hard, plastic, highly decorative surfaces that are easily rubbed down in a matter of minutes. They are replacing conventional table-cloths, which not only collect dirt and germs, but also involve management in high laundering costs. Chairs are available in matching or contrasting colours. They, too, can be upholstered in a hygienic material, combining attractiveness with ease of cleaning. This is particularly useful in industries where workmen may carry grease and other soiling agents with them into the dining room.

Floors should have an even surface, too: irregularity will contribute to the ruining of most linoleums or india-rubber floor coverings. On wooden floors, linoleum is by far the best covering, because it is easily cleaned and its colouring can be toned in with virtually any colour scheme. Linoleum keeps flies and insects away, thus contributing to the maintenance of hygiene. If linoleum tiles are used, they also present yet another economical factor: a ripped tile is much more easily replaced than a complete strip of linoleum. The inconvenience of replacing whole lengths of linoleum for one tear can often discourage those responsible from bothering.

Assistants. The cleanliness of staff should not be taken for granted. Therefore, handy washing facilities must be obtainable for everybody working in the kitchen or restaurant. The use of paper-towelling is recommended as, once used, it can be easily destroyed.

Washing facilities should also be provided for people who use the restaurant. Some factories which deal in particularly harmful products (lead, mercury, certain solvents, etc.), make it compulsory for workers to wash their hands before entering the dining room. Even where it is not obligatory, it is desirable. An excellent plan is to arrange the restaurant so that workers have to pass through washrooms to reach their food. The equipment available for these washrooms varies from pure bar soap and towels, to the more elaborate time-saving liquid-soap dispensers, paper or linen-towel machines and hot-air dryers.

Next month, we will deal with the dangers to hygiene that arise from the improper storage of foodstuffs and from the unsatisfactory disposal of waste.

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Enquiry Ref. No. W8/1

NON-CAUSTIC CLEANSER

THE increased use of synthetic resins which stubbornly adhere to the outer layer of workers' skin has led the makers of this new cleanser to produce something non-gritty and non-caustic, yet which will remove the contaminant. After wide-scale trials under controlled conditions, the makers are now marketing a new cleanser which they say is efficient, economical, pleasant and easy to use. It is of a soft, jelly-like consistency and is easily applied to the skin. No soap or other cleansing substance is required, and it does not run off the hands and lead to waste. It is said to be equally effective in cold or hot water and to leave no scum or deposit in the wash bowl. The manufacturers, who already produce other cleansers, state that the new product can be used in their special dispenser which directs the correct amount into the palm of the hand.

Enquiry Ref. No. W8/2

EAR PROTECTION

A NEW earguard has been designed specifically for use in situations where extreme noise is inherent with

operating conditions. The design is claimed to provide for the absolute protection of ears, with a degree of comfort that permits wearing over long periods. A P.V.C. cushion partially filled with liquid makes an effective seal between the wearer's head and the attenuator shells. Inside these shells is a foamed polyurethane sponge which can be removed and washed as required. A head pad is also made of the same foamed substance. All metal

For further details, complete enquiry coupon pp. 35/36

parts, except the wire frame, are of light alloy.

Enquiry Ref. No. W8/3

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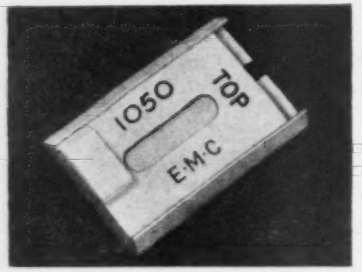

holders, as part of their service, that include one spare film for replacement at the end of a week.

At the end of each week the film is removed from the holder and posted to the monitoring service for processing, reading and recording. In the event of a weekly or accumulative dose exceeding the recommended safe dosage, an immediate communication will be sent to the safety officer so that prompt steps may be taken to remove and give affected persons the necessary treatment. Measures will also be taken to avoid a further occurrence.

Enquiry Ref. No. W8/4

NOISE REDUCTION

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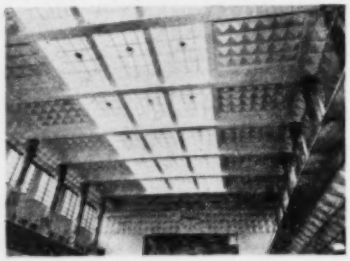


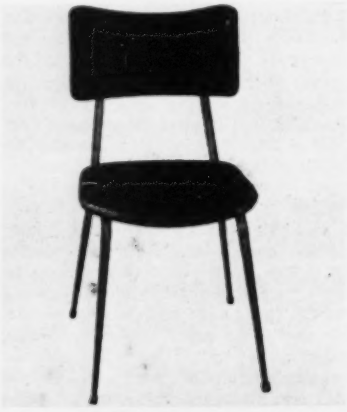
any firm surface, in addition to which the manufacturers point out that they can be installed without interrupting the activity of the building and without disturbing existing electrical or other fittings.

Enquiry Ref. No. W8/5

COLOURFUL FURNITURE

TAPER tube chairs, Model 168, are available in three finishes—stove-enamelled colours from the BSI range, chromium or bronze plated. The curved seat (16-in. by 15-in.) is of plastic foam, and the back is fully padded. This model is obtainable in a wide range of upholstery coverings—either contemporary, classic or plain and in Vynide, Lionide, Texturide, Florestin or in luxury Bedvord cord or moquette. The chair has been recently accepted by the British Council of Industrial Design for their index.

Another recent introduction is the Model 178 rectangular and Model 178/C circular tables, both designed to match the chairs. Warerite or Formica



tops are supplied in many colours and patterns, with optional contrasting colours on the 1-in. deep edges. The circular model is obtainable in six sizes from 20-in. to 26-in. in diameter and in the standard 30-in. height, or lower if required. The rectangular table is in 17 standard sizes.

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YOUR typist's health is often directly influenced by the chair in which she sits all day. If it is not fully adjustable to enable her to sit in the correct position, she could develop a severe spinal injury. True posture seating is the aim behind the design of this new model *V.10* which is based on an earlier version. The refinements

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particularly suitable for use by salesmen or any other personnel who need to tape important telephone messages and orders, or to record fully-detailed reports on calls or meetings. The battery life is up to 3½ hours at 1⅞ in. per second and the battery can be charged from normal AC supplies of 110-240 volts. For this purpose, an automatic charger is supplied with the set. Recording times vary from 18 min. per spool (9 min. each track) at 7½ i.p.s., to 72 minutes at 1⅞ i.p.s. The set measures only 9¾ in. long by 5 in. wide by 2¾ in. deep and weighs 5 ounces.

Enquiry Ref. No. 08/1

ADVISES TIME AND COST

THE Toll-o-Phone is a new telephone timer that automatically records the time and cost of all incoming and outgoing calls. A rate dial is set for three minutes, and a moving pointer indicates the number of minutes and their cumulative cost as long as the persons are connected. The limit is 15 minutes. Its advantage lies in the fact that the person paying for the call can end it before its cost goes higher than it is worth from a business point of view. Operation is simple: place one of the four dials on the Toll-o-Phone, move the pointer to zero and release, and the machine will then automatically record time and cost. The four dials cover differing rates of calls at day or night.

Enquiry Ref. No. 08/2

It is hoped that firms with new products for better and safer working in industry will continue to send details to the Editor. In this way we can maintain the news value of our comprehensive Equipment Market—now especially important because of the introduction of our Reader Enquiry Service.

BALL POINT COPYING

REPRODUCTION ink has been introduced into the Bic and Biro pen ranges. This new fluid is resistant to infra-red and ultra-violet rays so that it can be used in Oxalids. It is oil-based and is therefore slightly transferable, and copies made with it will resist all chemical reactions. Its design was made primarily for use with copying machines and it is claimed that it will reproduce perfect copies.

Enquiry Ref. No. 08/4

INTERLOCKING WORK STATION

THE Uni-Line system of continuous desking has been produced to get the maximum working area into a minimum of space. Use is made of many different arrangements of drawers and cupboards, in pedestal form, and of desk tops. Some of the pedestals incorporate foldaway typewriter actions, tilting stationery drawers and deep filing drawers on ballbearing suspension slides. Units are assembled and dismantled by means of a special connecting device which locks ancillary tops to the main unit. A single unit (known as a working station), consists of one 5 ft. by 1 ft. 6 in. table, a pedestal and a 3 ft. 3 in. by 2 ft. top at right angles to the table. For one person this would cost about £33; for two, £51.

Enquiry Ref. No. 08/3

Efficiency

ECONOMICAL STORAGE

RECTANGULAR section, hollow steel tubing is the basis of this newly designed drum pallet. There are no crevices to hold moisture and it is therefore suitable, say the makers, for use outdoors as well as indoors. Each unit carries three drums of 40/50 gallons size and can be handled by a fork-lift truck—fork clearance is 2¼ in. deep. Although strong enough to permit tiering four-high, each unit is light enough to be carried by one man. Units are symmetrical and reversible, and, by virtue of being compact, they allow safe and close packing of drums in the minimum possible space.

Enquiry Ref. No. E8/1

TWO IN ONE

THIRTY-ONE guineas will now buy you a cine camera and projector, both of which are equally capable of dealing with still pictures as well as motion. The "Prince" camera for 9.5 mm. film is styled in two colours and possesses a long running, silent spring motor governor to give positive running of 16 frames per second and accurate exposure speed. Other features include a highly polished camera gate to prevent film scratch, a footage indicator which is resettable as each charger is inserted and a two-position stop/start button for cine and snapshot. This

The pattern for every industry

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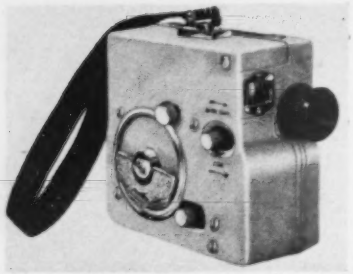
Is the incidence of Dermatitis in Industry declining?

No! The Annual Report of the Chief Inspector of Factories indicates that dermatitis in industry is not lessening. Yet the incidence can be controlled by using the appropriate Rozalex Barrier Cream for the work involved. These barrier creams have been accepted as the standard preparations for over 25 years by those concerned with occupational health. The severity of the risk varies with the trade, but in all occupations there is need for protection and cleanliness. Full technical resources are available on request to Rozalex Limited, 10 Norfolk Street, Manchester 2.

Protect hands with

ROZALEX BARRIER CREAMS

RIIIC



button is locked into position for carrying, or locked in the cine position so that the operator can include himself in the picture.

The "Princess" projector is fitted with a stainless steel front plate which prevents the collection of heat. Although there are no geared sprockets, the film path is said to be smoothed by the "floating action" spring-loaded rollers situated above and below the gate. The lens is a three-element type with all surfaces coated or bloomed. It has a focal length of 32 mm. which provides a 30-in. by 40-in. picture at a throw of approximately 8 feet. Spools from 30 to 400 feet can be accommodated.

Enquiry Ref. No. E8/2

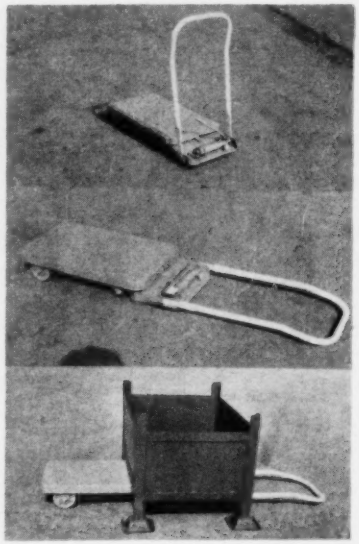
ZINC PROTECTION

RUST-ANODE, a new metal paint coat which leaves a protective film of pure zinc when applied to steel surfaces, has been improved by the addition of an extra binder. This ensures a still harder surface, claim the makers, and will make the paint more useful for any object which meets with frequent abrasion and friction. It can be applied by brushing, spraying or dipping and is touch-dry in half an hour. Special feature: application is simple, and can be done on site without dismantling or the use of special equipment or skilled labour. It is said to be non-toxic which means that it can be used with safety for food containers, fresh water tanks, etc.

Enquiry Ref. No. E8/3

FREE MANOEUVRING

MECHANICAL handling of goods already on a lorry can present problems—it can mean that manual work is still necessary especially in pulling stillages from the front of the lorry to the back where they can be manipulated by fork-lift trucks. The "Flattie" has been designed to help overcome this and other difficulties. The stillage is drawn straight back on the truck to the back of the lorry, then the handle is dropped quite flat so that the truck will pass under the stillage and be ready to move the next. The ideal situation is to have one Flattie for each



A motor worker—drawn from life by Peter Collins

Skilled Workers can always be obtained through the Daily Herald!

More than 3 million skilled and experienced workers read the Daily Herald—the finest pool of skilled labour in the country. Solve your staffing problems the quick and easy way by phoning Temple Bar 1200 (ext. 453/4/5/8) or Manchester Central 3232 (ext. 75). It's economical, too. Have you noted the Herald's recent changes in the series discounts for "Situations Vacant"? They give you the advantage of a reduction of from 5%-20%.

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All editions	**20/- per line**
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DAILY HERALD

Classified Advertisement Manager, Daily Herald, Acre House, Long Acre, London, W.C.2, or 2/4 Oxford Road, Manchester, 1

lorry—it will travel underneath the stillages.

Enquiry Ref. No. E8/4

Vending

SEALED STRAWS

THE latest addition to a famous range of vending machines for milk has a capacity of 144 half-pint Tetrapaks. Incorporated in the design is a mechanism for the delivery of a hygienically sealed straw for each packet of milk. In line with current trends for these machines to be economical in regard to the amount of space they occupy, this vendor is only 18-in. deep. Operation is by means of a sixpence. The packs are stacked on seven trays and are moved into the vending position on a patented conveyor system. For refrigeration, any temperature down to 32 degrees F. can be given.

Enquiry Ref. No. V8/1

Cleaning

COMBATS FATIGUE

REDUCTION of stooping and fatigue are just two of the features which the manufacturers of the "Mop Boy" roller wringing bucket feel will appeal to employees. By means of a spring-return foot-pedal, considerable leverage is applied to the rollers to exert a powerful wringing action without twisting or tearing the mop-head. Another advantage as far as cleaners are concerned must be that hands do not touch the cleaning fluid. Replacement of mop-heads too can be reduced by the fact that they are only squeezed and not twisted. Except for the hardwood rollers, the unit is hot-dipped galvanised throughout. The rollers will accommodate larger size mops when necessary.

Enquiry Ref. No. C8/1

Safety

EARLY WARNING

ONE sure means of getting every possible outbreak of fire in a building dealt with in time is to install an alarm system which calls the brigade automatically. The Fidela heat-sensitive detector works on the principle of the thermal expansion of metal. Fully self-compensating for seasonal or other normal changes in temperature, it actuates the alarm immediately any abnormal rate of rise occurs. The detector is wired, via a

Further details of the items featured in 'Equipment Market' can be obtained by returning a completed enquiry reply coupon—Pages 35/36.

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ELECTRIC SANITARY INCINERATORS

Safe · Reliable · Hygienic

Every unit guaranteed 12 months

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Wall mounting for the smaller premises. Cat. No. PH 6740 £25.

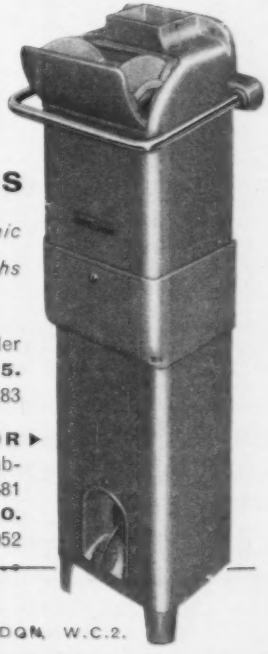
See descriptive publication PH 4283

SANFIRE MAJOR ▸

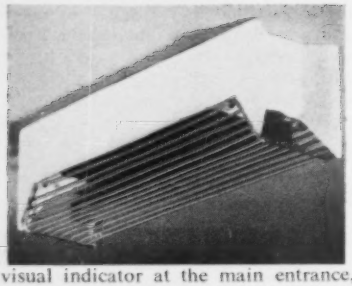
Pedestal unit for the larger establishment. Cat. No. PH 6681

£49.15.0.

See descriptive publication PH 1952



THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2.



visual indicator at the main entrance, direct to the local fire brigade station control room by a G.P.O. line used for no other purpose. If fire breaks out—either slowly or quickly—the alarm is set off at the earliest possible moment.

Enquiry Ref. No. S8/1

TUBULAR TRESTLES

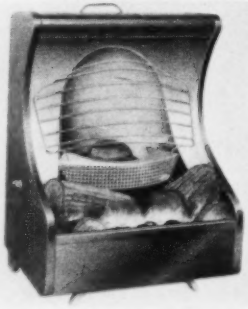
SAFETY and flexibility are two special features of the Unimer range of trestles. Each standard trestle consists of a pair of tubular steel legs joined by three crossbars. The wooden beam which they support operates as a sprag, when locked between the trestle legs, so that the greater the weight applied to the platform on the trestles the greater the lock. There is also a telescopic version with adjustment at the top which means that the trestle is permanently fixed in use. Nine standard sizes rise at intervals of six inches from 16 in. to 58 in. For indoor use, special rubber thimbles are obtainable at a small extra cost. It is claimed that Unimer trestles can be erected and dismantled in seconds.

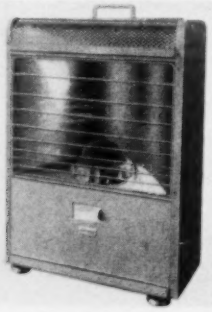
Enquiry Ref. No. S8/2

Heating—RADIANT PARAFFIN BURNERS

ECONOMICAL and portable heating is supplied by two new radiant paraffin burners. The model with a simulated log fire should add colour to the office, medical and waiting rooms or the showroom. Both have a capacity of six pints, and are capable of continuous burning for 18 hours on one gallon of fuel. Special features include: safety cut-out device which operates automatically if the burner is tilted or lifted off the ground, special access window which allows the burner to be lit without touching it or disturbing the guard, adjustable feet for levelling and a wide range of heat control from a lever at the rear. Inclusive of purchase tax, log-fire model costs £12 5s.; cabinet model costs £9 15s.

Enquiry Ref. No. H8/1





Both heaters will burn continuously for 18 hours on one gallon of paraffin

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provide these advantages

- A mechanism that can be adjusted to operate on any number of coins.
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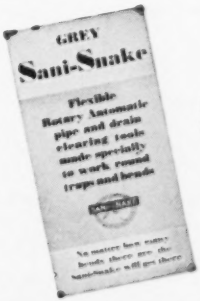
Keep plumbing clear

REMOVED by the "Sani-Snake" after all attempts by other means had failed.



One blocked waste pipe may cost you anything from £10 to over £100 for excavation or dismantling. A "Sani-Snake" will cost you £10 or less and will eliminate the necessity for such costly work. A very large number of famous manufacturing firms and departmental stores are daily using the "Sani-Snake."

The equipment reduces the clearance of pipes to the simple job of turning a handle. Any member of the maintenance staff can use it. There is work for a "Sani-Snake" wherever pipes are in use.

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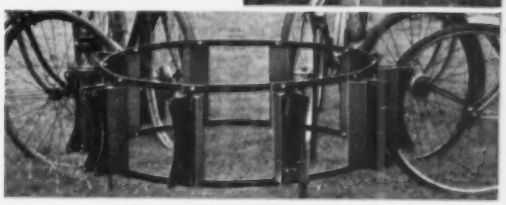
ABIX Cycle Holders ▼ fitted two sides of a wooden post, the four sides of which may be utilised if desired. ▼ ABIX Cycle Holders fitted on a frame of circular form some 3 ft. in dia. 10 cycles may be accommodated in this way with ample clearance between.



The ABIX Cycle Holder illustrated here has been designed for use in positions where our well known and popular types of cycle stand might not be convenient.
Robust and durable in construction made entirely of steel with a choice of stove enamelled or galvanised finishes.
The ABIX Cycle Holders will be found not only economical of space but remarkably quick and easy to use.

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